radio operators with satellite capability, however, fulfilling the mission of emergency/auxiliary radio communications (i.e., "when all else fails"), with their special skills and experience, might be reason enough to take some relatively simple measures now to protect their ability to get back on the air when the bad day arrives.

Notes

[1] Rule 2, ARRL Field Day 2016 Rules (ARRL: 2016).
[2] B. Paige, "AMSAT Field Day 2016," *The AMSAT Journal*, March/April 2016, p. 22.
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[5] H. R. Schroeder, "Electromagnetic Pulse and Its Implications for EmComm," *QST*, Nov. 2009, p. 38 [Schroeder].
[6] E. Conrad, et al., *Collateral Damage to Satellites from an EMP Attack* (Defense Threat Reduction Agency: 2010), p. 1 [DTRA Report].
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[8] DTRA Report, p. 5.
[9] Commission Report, p. 111.
[10] Schroeder, p. 39.
[11] DTRA Report, p. 134.
[12] Schroeder, p. 40.
[13] P. Pry, *Apocalypse Unknown: The Struggle to Protect America from an Electromagnetic Pulse Catastrophe* (2013) p. 3 [Pry].
[14] Pry, p. 3.
[15] P. Riley, "On the Probability of Occurrence of Extreme Space Weather Events," *Space Weather, Vol. 10* (American Geophysical Union: 2012), p. 1 [Riley].
[16] D. Baker, "A Major Solar Eruptive Event in July 2012: Defining Extreme Space Weather Scenarios," *Space Weather, Vol. 11* (American Geophysical Union: 2013) pp. 585-586, 590.
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Aboard the Queen Mary – W6RO on AO-7

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On March 4, 2016, I was in southern California to give a presentation and demonstration of satellite operating for the Associated Radio Amateurs of Long Beach (ARALB). The Queen Mary's amateur radio station, W6RO, is operated by ARALB, and the club had invited me to visit the ship's wireless station. So, the next day, while sightseeing with Endaf Buckley, KG6FIY, around Los Angeles, we headed to the Queen Mary in Long Beach harbor.

W6RO has several operating positions, covering bands from HF through 70 cm. One of the stations is set up for satellite operating, with a Yaesu FT-847, Yaesu az/el antenna rotator, and long-boom Yagis for 2 m and 70 cm (Figure 1). The W6RO satellite station was originally set up in the days of AO-13, and has not been used much in recent years. While looking around the station, W6RO's station manager, David Akins, N6HHR, asked if I wanted to try operating the satellite station. I discovered

Figure 1 — W6RO satellite antenna [Patrick Stoddard, WD9EWK, all photos].

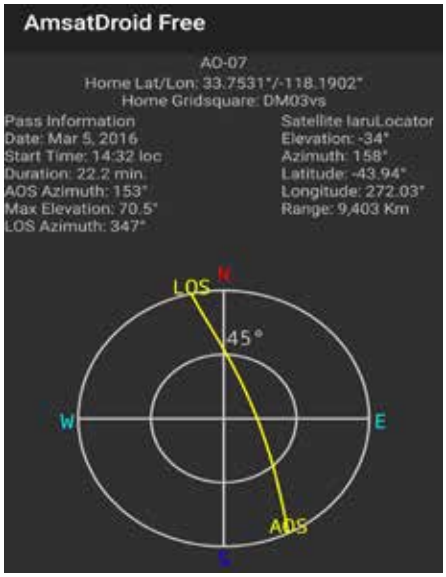

Figure 2 — AO-7 pass prediction.

Figure 3 — W6RO station manager, David Akins, N6HHR.

there was an AO-7 pass about 30 minutes away (2232 UTC), and David gave me the FT-847 manual. Never having used an FT-847 to work satellites, I began reading the manual and looking at the radio and rotator controller in the hopes of making contacts during the AO-7 pass.

Using the AmsatDroid Free tracking app on my Nexus 5 mobile phone (Figure 2), I saw that AO-7 would pass very high over the ship, up to a maximum elevation of 70 degrees. I posted a message to the AMSAT-BB list and tweeted that I would be on the AO-7 pass at 2232 UTC. I was ready to go.

The FT-847 gave me one challenge right away. The Sub-Tune knob would only tune downward, no matter which way I turned the knob. By flipping the VFOs around, I was able to line myself up and start CQing. I made one QSO right away, with Dave, KG5CCI. My "audience" - KG6FIY and N6HHR - were happy to hear W6RO make a satellite QSO for the first time in several years.

The Sub-Tune knob gave me more fits, but near the end of the AO-7 pass I logged two more QSOs. I worked Larry, WA6DIR, north of the ship near Los Angeles, followed by Bryan, KL7CN/W6, near Sacramento in northern California. Even with the small number of QSOs, this brief activation of W6RO on AO-7 was deemed a success.

Thanks to KG6FIY, two video clips of my W6RO operation were posted on YouTube: **www.youtube.com/watch?v=K-cQ09H-LI8** (working KG5CCI)and **www.youtube.com/watch?v=Lg2QFB3ubRQ** (working WA6DIR & KL7CN/W6).

Thanks to Endaf Buckley, KG6FIY, for inviting me to give another presentation to the ARALB on March 4, and thanks to David Akins, N6HHR, for opening the W6RO station and allowing me to work the Queen Mary satellite station. 73!

Figure 4 — Patrick working AO-7 from W6RO.

Figure 5 — A successfully worked pass from W6RO!

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